

## AWIPS SOFTWARE INSTALLATION INSTRUCTION NOTE 51

(for Electronics Systems Analysts)

Maintenance, Logistics, and Acquisition Division

W/OPS12: JCS

SUBJECT:	Release OB4 Installation Kit
PURPOSE:	To provide Release OB4 software CDs, installation instructions and related information
EQUIPMENT AFFECTED:	AWIPS
PARTS REQUIRED:	The installation kit contains the following items: <ol style="list-style-type: none"><li>1. ROB4 instructions</li><li>2. Three installation CDs</li><li>3. OB4 Release Notes</li><li>4. Installation Script Log Output (with error information)</li></ol>
SPECIAL TOOLS REQUIRED:	Xyplex tool
AFFECTED SITES:	All AWIPS sites must install this release.
PREINSTALLATION REQUIREMENTS:	All AWIPS sites must install at least OB3.2 due to security patches and basic input/output system (BIOS) upgrades. All WFO systems should have at least IFPS 15.2 and AvnFPS 2.0 for those applications to work after the upgrade. All RFC systems must have the River Ensemble Processors installed and running.
SECURITY LEVEL:	Root
ESTIMATED TIME REQUIRED:	Pre-installation activities may take up to 2 hours, and should be completed several days before the full installation. The main OB4 install takes about 6 to 7 hours to complete, depending on the number of workstations. The post-installation activities may take an additional 2 to 3 hours, depending on the site.
EFFECT ON OTHER INSTRUCTIONS:	File this note in EHB-13, Section 3.1. Discard all previous software installation instructions, prior to Build OB2 (AWIPS Software Installation Instruction Note 42) in section 3.1.
AUTHORIZATION:	The authority for this modification note is Request for Change AB937.

VERIFICATION STATEMENT:	The OB4 installation procedure was tested and verified at National Headquarters Silver Spring, MD (NMT systems), Central Region Headquarters Kansas City, MO (BCQ), Eastern Region Headquarters Bohemia, NY (VUY), Southern Region Headquarters Ft. Worth, TX (EHU), Alaska Region Headquarters Anchorage, AK (VRH), WFO Wichita, KS (ICT), WFO Taunton, MA (BOX), WFO Reno, NV (REV), RFC Taunton, MA (TAR), WFO Lubbock, TX (LUB) WFO Boise, ID (BOI) RFC Pleasant Hill, MO (KRF) WFO Juneau, AK (AJK) WFO Nashville, TN (OHX) and the Radar Operations Center Norman, OK (OSFW).
TECHNICAL SUPPORT:	For questions or problems regarding these installation instructions or installing this Release, please contact the NCF at 301-713-9344.

#### **A. GENERAL INFORMATION:**

The installation must be scheduled in advance in order to provide adequate installation support. Sites must coordinate the ROB4 installation with the regional or NCEP center AWIPS focal point. The regional AWIPS focal points can schedule a maximum of three sites per day, Monday through Thursday, using the NOAA Oracle calendar under the resource name of NWS AWIPS Schedule. Sites that do not have a regional AWIPS focal point can coordinate the install date with Sanford Garrard ([sanford.garrard@noaa.gov](mailto:sanford.garrard@noaa.gov)) at Weather Service Headquarters.

NCF/NGIT upgrade support is available from 8:00 am to 5:00 pm Eastern Time (ET) Monday through Wednesday, and 10:00 am to 7:00 pm ET on Thursday. NCF/NGIT assumes that sites will follow the set support hours. OCONUS sites requiring upgrade support outside of the listed time frames must coordinate in advance through the regional AWIPS focal point.

WFO systems should complete the OB4 install by January 6, 2005. RFC systems and other national centers should complete the OB4 install by the end of January 2005.

#### **B. INSTALLATION PROCEDURE:**

All prerequisites, coordination requirements and installation instructions are located in Appendix B *Installation Instructions for AWIPS Release OB4*. Review the instructions before performing the upgrade. It is important to complete Part 0 at least one day before the rest of the upgrade since it includes a physical inspection of the installation CDs for possible damage in transit.

**C. REPORTING INSTRUCTIONS:**

Report the completed software installation using the Engineering Management Reporting System (EMRS) according to the instructions in NWS Instruction 30-2104, Maintenance Documentation, Part 4, and Appendix F. Include the following information on the EMRS Report:

<b>Block #</b>	<b>Block Type</b>	<b>Information</b>
5	Description	Install AWIPS Release OB4
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Installed Release OB4 I.A.W. AWIPS Software Installation Instruction Note 51.
17a	Mod. No.	S51

A sample EMRS report is provided as Attachment B.

Mark S. Paese  
Director, Maintenance, Logistics, and Acquisition Division

Attachment A - Installation Instructions for AWIPS Release OB4  
Attachment B - EMRS Report Sample

## Attachment A

### Installation Instructions for AWIPS Release OB4

#### General Information

There are 169 Advanced Weather Information Processing Systems (AWIPS) in the National Weather Service (NWS). These systems are located in national centers, development test beds, training centers, regional headquarters, national headquarters, and field sites across the country. Each AWIPS is defined as a Weather Forecast Office (WFO) system or a River Forecast Center (RFC) system. The identity of the system can be determined by checking the `$SITE_TYPE` variable. Each AWIPS also has a unique site name, which can be determined by checking the `$SITE_IDENTIFIER` variable.

These instructions are written for both RFC systems and WFO systems. As a result, some instructions may only be applicable to RFC systems, WFO systems or individual sites. Each step or section is clearly marked. **All steps are required unless otherwise directed in the instructions.**

Pre-installation activities may take up to 2 hours, and should be completed several days before the full installation. The main OB4 install averages 6 to 7 hours to complete depending on the number of workstations. The post-installation activities may take an additional 2 to 3 hours, depending on the site.

During the install, a full localization is run on PX2 and the results are pushed to all servers and workstations. Model data is queued up, but text data ingest downtime is about 4 hours.

Do not use <Ctrl C> to stop installation scripts during the install.

Do not proceed if any unexpected problems occur during the install. Instead, contact the NCF before taking any action.

## Preface

A significant change included in the OB4 installation is the transition to individual user accounts. Scripts and guidance are provided in Part 0, Part 15, and Appendix C.

Operations cannot resume until after Part 15, step 3, when users can first log on to the system.

The D2D application has a set of User IDs defined in `/awips/fxa/data/fxa-users` on each workstation. A post-install step (Part 15, step 13c) is necessary to match up the user to the previously created procedures if the User ID and new individual user accounts are not identical.

Since `awipsusr` and `textdemo` are no longer login accounts, sites that host a Center Weather Service Unit (CWSU) connection have additional post install steps to restore access to the CWSU. Guidance is provided in Part 15 and Appendix D.

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## Part 0 Pre-installation Activities

**Note:** Each step applies to both RFC and WFO systems unless otherwise noted. Complete steps as directed one or more days before continuing with the remainder of the installation.

1. Check Prerequisites.  
The following items must be completed before performing the OB4 upgrade.
  - a. At least the OB3.2 maintenance release is installed.
  - b. At least the IFPS 15.3 maintenance release is installed on WFO systems.
  - c. At least the AvnFPS 2.0 release is installed on WFO systems.
  - d. The River Ensemble Processors (REP) are installed and running on RFC systems.
2. Review Assumptions.  
There were a number of changes to the WarnGen, Watch Warning Advisory (WWA), and RiverPro applications in maintenance release OB3.3, in order to prepare for Valid Time Event Code (VTEC) implementation. The assumption is made that all systems using WarnGen, WWA, or RiverPro applications have completed maintenance release OB3.3, including post-install steps, before installing OB4.
3. Coordinate the OB4 upgrade with other sites, as applicable.
  - a. Confirm installation date with the backup site(s).
  - b. If the site is a Weather Wire uplink site, ensure (through the AWIPS regional focal point) that the backup Weather Wire site(s) are not concurrently doing the upgrade.
  - c. Sites that support the CWSU connection to an AWIPS Workstation must coordinate the install with the CWSU personnel, since the connection is disconnected during the upgrade. In addition, a post-install step is necessary before CWSU personnel can log back on to the system. Additional information is available in Part 15, step 4.
4. Addendum/Errata Document.  
An addendum/errata document that contains change pages is normally posted at [http://www.ops1.nws.noaa.gov/awips\\_software.htm](http://www.ops1.nws.noaa.gov/awips_software.htm). This document is updated frequently during the first few weeks of deployment. Check the web page to see if the document exists. If it does, download it and replace the appropriate page from this installation document. Also, check the web page again shortly before beginning the actual upgrade to see if a more updated version is available.
5. Obtain files from NOAA1 server.  
A number of files must be downloaded, including nationally maintained (NDM) files and installation scripts from the NOAA1 server. These files are placed in a safe directory until install day. The `moveob4files.sh` script places the files into the proper location just before localization in Part 4.
  - a. From a Linux workstation, log on as `root`; open a terminal window and log on to the **DS1** as `root`.

```
rlogin ds1
```

- b. Go to the `/data/local/nationalData` directory.

```
cd /data/local/nationalData
```

If this directory does not exist, create it using the `mkdir` command.

If the directory does exist, use the `list` command to verify that the files downloaded in the OB3 install were deleted in the OB3 upgrade. If not, delete those files now.

```
ll /data/local/nationalData
```

```
rm /data/local/nationalData/*
```

- c. Connect to the NOAA1 ftp server by entering the `ftp` command.

```
ftp 165.92.25.15
```

Once connected to the NOAA1 server, log on as user `ftp`, and email address as the password.

- d. Get the national data and other files using the following sequence of commands:

- i. `binary`
- ii. `hash`
- iii. `prompt` (Optional. Use to prevent prompts for each file)
- iv. `cd /pub/BuildOB4`
- v. `mget *` (Two files are downloaded)
- vi. `cd /pub/ndm/OB4`
- vii. `mget *` (Seven files are downloaded)
- viii. `bye` (Exits NOAA1 server)

Filename	Directory Location at NOAA1 Server before Download	File Directory location after upgrade
textCategoryClass.txt	/pub/ndm/OB4	/awips/fxa/data
textNNNhelp.txt	/pub/ndm/OB4	/awips/fxa/data
upair_table.dat	/pub/ndm/OB4	/awips/fxa/data
station_table.dat	/pub/ndm/OB4	/awips/fxa/data
dataInfo.manual	/pub/ndm/OB4	/data/fxa/nationalData
depictInfo.manual	/pub/ndm/OB4	/data/fxa/nationalData
productButtonInfo.txt	/pub/ndm/OB4	/data/fxa/nationalData
moveob4files.sh	/pub/BuildOB4	/data/local/nationalData
AWIPScheckout.sh	/pub/BuildOB4	/home/awipsadm/install

- e. If the site has made localized changes to any of the files listed in the table, it is necessary to merge modifications into the downloaded files before the day of the install. Send NDM changes that are applicable to the national data sets to Fran Curnow ([frances.curnow@noaa.gov](mailto:frances.curnow@noaa.gov)).

- f. Set permissions and relocate one of the scripts. Use the move command since it is not needed in the `/data/local/nationalData` directory anymore.
  - i. `chmod 775 *sh`
  - ii. `mv AWIPSCheckout.sh /home/awipsadm/install`
6. Obtain marine shape files from NOAA1 server. (Required for sites having marine responsibility; optional for others.)  
 The OB4 install introduces the capability to display coastal zones, offshore zones, and high seas zones separately from the **Maps** menu on the D2D. The *OB4 Release Notes* include more information on this new feature. Each shape file set contains four types of files: `.bcd`, `.dbf`, `.shp`, and `.shx`. The `.bcd` type file is automatically created during localization from the other three files and does not need to be downloaded. Verify if the other three type files exist on the system, and download from NOAA1 as needed.

From **DS1** as user `root`, type the following commands:

- a. `cd /data/fxa/nationalData`
- b. `ls -l marine_zones*` (there should be four files)
- c. `ls -l coastal_zones*` (there should be four files)
- d. `ls -l offshore_zones*` (there should be four files)
- e. `ls -l high_seas_zones*` (there should be four files)

If any files are not on the system, obtain them from the NOAA1 server. The files are located in `/pub/maps` on NOAA1 and need to be downloaded to `/data/fxa/nationalData`. The NOAA1 files are coded by an abbreviation and by date created. The latest available versions must be converted to the following when downloaded.

<code>mz*dbf</code>	<code>marine_zones.dbf</code>
<code>mz*shp.Z</code>	<code>marine_zones.shp.Z</code>
<code>mz*shx</code>	<code>marine_zones.shx</code>
<code>mz*dbf</code>	<code>coastal_zones.dbf</code>
<code>mz*shp.Z</code>	<code>coastal_zones.shp.Z</code>
<code>mz*shx</code>	<code>coastal_zones.shx</code>
<code>oz*dbf</code>	<code>offshore_zones.dbf</code>
<code>oz*shp.gz</code>	<code>offshore_zones.shp.gz</code>
<code>oz*shx</code>	<code>offshore_zones.shx</code>
<code>hz*dbf</code>	<code>high_seas_zones.dbf</code>
<code>hz*shp.Z</code>	<code>high_seas_zones.shp.Z</code>
<code>hz*shx</code>	<code>high_seas_zones.shx</code>

An example of the ftp command:

```
ftp> cd /pub/maps
250 CWD command successful.
ftp> ls mz*
```

```

200 PORT command successful.
150 Opening ASCII mode data connection for /usr/bin/ls.
-rw-rw-rw- 1 Ira users 110306 Jun  9 13:05 mz02jn04.dbf
-rw-rw-rw- 1 Ira users 5732853 Jun  9 13:05 mz02jn04.shp.Z
-rw-rw-rw- 1 Ira users  3076 Jun  9 13:05 mz02jn04.shx
-rw-rw-rw- 1 Ira users 114450 Jun 30 15:20 mz15jl04.dbf
-rw-rw-rw- 1 Ira users 5668026 Jun 30 15:21 mz15jl04.shp.Z
-rw-rw-rw- 1 Ira users  3188 Jun 30 15:21 mz15jl04.shx
-rw-rw-rw- 1 Ira users 114154 Jun 30 15:21 mz27jl04.dbf
-rw-rw-rw- 1 Ira users 5671643 Jun 30 15:21 mz27jl04.shp.Z
-rw-rw-rw- 1 Ira users  3180 Jun 30 15:21 mz27jl04.shx
-rw-rw-rw- 1 Ira users 155953 Feb 21 2001 mztbw24ja01.dbf
-rw-rw-rw- 1 Ira users 7214592 Feb 21 2001 mztbw24ja01.shp
-rw-rw-rw- 1 Ira users  3004 Feb 21 2001 mztbw24ja01.shx
-rw-rw-rw- 1 Ira users  10951 Feb 21 2001 mztbwsubset.dbf
-rw-rw-rw- 1 Ira users  80104 Feb 21 2001 mztbwsubset.shp
-rw-rw-rw- 1 Ira users   300 Feb 21 2001 mztbwsubset.shx
226 Transfer complete.
ftp> get mz27jl04.dbf coastal_zones.dbf
200 PORT command successful.
150 Opening BINARY mode data connection for mz27jl04.dbf (114154 bytes).
226 Transfer complete.
114154 bytes received in 0.72 seconds (154.48 Kbytes/s)

```

For OB4, the `marine_zones*` and `coastal_zones*` share the same shape file set.

#### 7. Remove Alpha/Beta test software.

As a general rule, sites testing alpha/beta software should remove the test software before the OB4 upgrade. Since most WFO systems installed an alpha/beta version of the WWA application in OB3.3, special uninstall instructions are provided in Part 1. The removal of the WWA application does not affect the templates.

#### 8. WWA Template Information.

As mentioned in step 2, it is assumed that all sites using the WWA application have completed maintenance release OB3.3 and the associated post-install steps.

The only changes from OB3.3 to OB4 are that the hydrology and marine templates have been updated and are now placed in `/data/ffa/nationalData` instead of a holding directory. The use of these new templates is expected to begin in the November/December 2004 time frame. For specific timing, see appropriate Service Change Notice (SCN).

#### 9. WarnGen Template Information.

As mentioned in step 2, it is assumed that all sites using the WarnGen application have completed maintenance release OB3.3 and the associated post-install steps.

There were 48 WarnGen templates delivered in OB3.1 and 11 WarnGen templates delivered in OB3.3. No additional templates are added in the OB4 install, although one template is corrected. In addition, the 11 WarnGen templates delivered in OB3.3 contain the segmented follow-up products that are expected to be activated in the November/December 2004 time frame. For specific timing, see the appropriate SCN.

#### 10. Automatic File Backup and Restore Information.

Each section lists what files are automatically saved and/or restored during the OB4 upgrade. Other files not listed should be manually saved off to a safe directory as needed.

- *Part 2, Install OB4 LDAD Software.*  
ROB3 versions of files mentioned in Appendix A, Section 1, are saved off to /px2data/BACKUPLDADOB3 by the script called installLDADOB4. The OB4 versions of these files are operational upon installation.
- *Part 3, OB4 MSAS Script.*  
In OB4, MSAS is moved from the AS to the PXs. All files listed in Appendix A, Section 2, are updated and the old versions are saved in /px2data/BACKUPMSASOB3.
- *Part 4, Install Linux Software.*  
No files are saved off.
- *Part 5, Install OB4 CP Software.*  
No files are saved off.
- *Part 6, Install OB4 Archiver Software.*  
The current archive configuration files are saved in the /awips/archiver/arch\_root/config directory. The original files are indicated by the .bak extension.
- *Part 7, Install OB4 RP Software.*  
No files are saved off.
- *Part 8, OB4 Pre-Install Script.*  
No files are saved off.

Similar to previous releases, the cron files from DS1, DS2, AS1 and AS2 are updated and replaced. If the site has made customized changes to any of the crons in the /var/spool/cron/crontabs directory, then those files should be manually saved off and merged back in after the upgrade. However, the merging should be carefully examined, since some applications such as the Hourly Weather Roundup (HWR) are moved from the DS to the PXs in OB4.

- *Part 9, Install LAPS Software.*  
No files are saved off.
- *Part 10, Install OB4 Hydrology Software.*  
For WFO systems, no files are saved off.  
For RFC systems, the interactive script allows the choice of restoring the current RFC applications or keeping the delivered R25.0 version.
- *Part 11, Install OB4 ADAPT Software.*  
No files are saved off.
- *Part 12, Install OB4 NMAP Software.*  
The oldest version of NMAP (\$NMAP\_DIR/old) is removed.  
The current version is moved to \$NMAP\_DIR/old.  
The OB4 version is installed in \$NMAP\_DIR/current.
- *Part 13, Install OB4 FXA/System Software.*  
No files are saved off.
- *Part 14, OB4 Post Install Script.*  
No files are saved off.

#### 11. Manual File Backup Information.

Any file that is not listed as automatically saved in step 10 should be manually saved off as needed.

Sites that tested the local applications menu prior to OB4 should save a copy of the config file in a safe directory prior to the upgrade. The file is located at `/awips/fxa/data/appsLauncher/local.conf`. The new applications menu is delivered with the OB4 install.

If sites made changes to the `global_day` file in `/awips/adapt/climate/data` for the Climate application, save the file in a safe directory and restore it after the upgrade.

Secure a good LDAD backup a week or so before the upgrade. Use System Administration Note 12 entitled *LDAD Backup and Restore Procedure*. This document can be found on the following web page:

<http://www.ops1.nws.noaa.gov/AWIPSSystemAdminNotes.htm>

#### 12. Freeware and COTS changes.

Freeware and Commercial off the Shelf (COTS) changes are listed in Appendix B. Review the appendix to see if any local applications, such as ones that use Tcl/Tk, need to be modified after the upgrade.

#### 13. Localization information.

Similar to OB3, a full localization is run on PX2 during the installation, and the results are pushed to the other servers and workstations. Therefore, all current and active customized files should either be placed in `/data/fxa/customFiles` or `px2:/awips/fxa/data/localization/LLL` where `LLL` is the AWIPS localization identifier. An identically named file should not be placed in both directories, since it could cause confusion to the user attempting to make changes in the `localization/LLL` directory. The `AWIPSCheckout.sh` script, mentioned in step 14, can be run to verify that each file in `localization/LLL` is consistent with the ones found on PX2.

Any RPS lists that were modified using the method in the *System Managers Manual* should be saved to the `customFiles` directory to preserve changes after the install.

#### 14. System checks with `AWIPSCheckout.sh`. (Optional)

Although optional in Part 0, the `AWIPSCheckout.sh` script can be run at this time. This script identifies the release version IDs, checks file sizes, and also compares the localization directories on each server and workstation. Action may be required if prerequisites have not been completed. The instructions to run `AWIPSCheckout.sh` are located in Part 1, step 11.

#### 15. HWR and Climate application setup check (WFO systems only).

Any WFO system that has configured the HWR and/or Climate applications should verify that any product not intended to be transmitted over the Wide Area Network (WAN) has the **Addressee** in the GUI set to 000. Information on setting up each application can be found in Chapter 9 of the *System Managers Manual*.

#### 16. Individual usernames information (optional).

In OB4, `awipsusr` and `textdemo` login accounts are disabled. Individual user names are

required to access the system. In Part 15, a script (`setupAwipsUser.sh`) is run to create user names, copy necessary secure shell (SSH) keys and set up the AWIPS environment for each user. If individual user names have already been established, this script must still be run to copy necessary SSH keys and to set up the proper AWIPS environment for each user.

The `setupAwipsUser.sh` script copies the environment of `awipsusr` on LX1 to each individual user name. This includes a group name of `fxalpha` and `cs` as the default shell. In addition, the GNOME desktop settings from LX1 are also copied during the setup. Any customized changes, as needed, should be done on LX1 before the OB4 upgrade. As a general rule, any customized changes to an individual user's `.profile` should be added to the bottom of the file.

Additional information on usernames is available in Appendix C.

17. Create a password GUI on LX1 for individual user names (optional).  
After OB4 is installed, individual users can change the password with the `yppasswd` command from a terminal window. An easy alternative is to create a password GUI using the following procedure. If the GUI is created on LX1 before the upgrade, the change is copied to each user during the `setupAwipsUser.sh` script.
  - a. Log on to **LX1** as `awipsusr`.
  - b. On the middle graphics screen, add an icon to the panel as follows:
    - i. Click right mouse button on the panel.
    - ii. Select **Panel:Add to Panel:Launcher from menu:System:Change Password**. A new icon (brown footprint) appears on the panel.
    - iii. Click right mouse button over the new icon and select **Properties**. The Launcher Properties GUI appears.
    - iv. On the line that contains **Command**, change `userpasswd` to `yppasswd`.
    - v. Check the **Run in Terminal** check box.
    - vi. Click on the **No Icon** box and select **Escher Triangle.xpm** for the icon image.
    - vii. Press the **Close** button
18. Prepare individual usernames script (optional).  
The `setupAwipsUser.sh` script, which is used in Part 15, can be run separately for each user or can take input from a file prepared in advance. It is recommended to create a script that sets up each username in advance rather than manually typing the users in Part 15. Refer to Appendix C, section 2 for additional information on how to set up the script.

**Note:** The installation CDs are needed for each of the remaining steps in Part 0.

19. Check OB4 CDs.  
The install package included three CDs. Verify the following information for each of the CDs.
  - a. Check the name on each CD.

- i. LDAD, FREEWARE, LINUX WFO-A, LINUX NGIT.
  - ii. OH, LAPS.
  - iii. ADAPT, HP WFO-A, NMAP, NGIT UX.
- b. Physically inspect for visible scratches or other damage.
- c. Check the contents of the CD.
- i. Take the CD labeled ADAPT, HP WFO-A, NMAP, NGIT UX and insert into CD-ROM drive on PX2.

Log on to **PX2** as `root`, and type the following:

- ii. `ll /mnt/cdrom`

If the directory does not exist, type `mkdir /mnt/cdrom`

- iii. `mount /mnt/cdrom`
  - iv. `cd /mnt/cdrom`
  - v. `ll`  
Verify that the contents are viewable.
  - vi. `cd`
  - vii. `eject cdrom`
- d. Repeat step c with the second CD (OH, LAPS).
- e. Repeat step c with the third CD (LDAD, FREEWARE, LINUX WFO-A, LINUX NGIT). However, do not eject the CD since it is used in the following step.

20. Setup the User SSH keys.

This step presumes that the CD labeled LDAD, FREEWARE, LINUX WFO-A, LINUX NGIT is in the PX2 CD-ROM drive. Steps 20 and 21 are run from the WFO systems xyplex console, since step 21 requires the reboot of the AX and Linux Workstations.

From the **WFO Systems xyplex console** as user `root`, log on to **PX2** and type the following commands:

- a. `rm -f /local/install/*`
- b. `script -a -f /local/install/setupSSHkeysOB4.out`
- c. `cd /mnt/cdrom/home/awipsadm/ssh`
- d. `./setupSSHkeys.sh`  
(If prompted to overwrite a file, answer `y`)
- e. `exit`

21. Install Linux security patches on the AX and Linux Workstations.

This step takes about 40 minutes and requires that users log off of the Linux workstations. It installs security patches and reboots each workstation. Coordinate a time, as necessary, with operations before proceeding.

This step presumes that the CD labeled LDAD, FREEWARE, LINUX WFO-A, LINUX NGIT is in the PX2 CD-ROM drive and that users are logged off the Linux workstations.

From **WFO Systems xyplex console** as user `root`, log on to **PX2** and type the following commands:

- a. `script -a -f /local/install/installLX_SecurityPatches.out`
- b. `cd /mnt/cdrom`
- c. `./installLX_SecurityPatches.sh ax` (takes about 7 minutes)
- d. `./installLX_SecurityPatches.sh lx` (takes about 30 minutes)
- e. `exit` (exits from script)
- f. `cd /`
- g. `eject cdrom`
- h. `exit` (exits from xyplex)
- i. Remove the CD from the PX2 CD-ROM drive and store until install day.

Note: If the right monitor on the M-Pro Linux workstation fails to start, issue the following commands as `root` on the affected workstation.

```
/sbin/depmod -a  
reboot
```

**End of Part 0**

## Part 1 Install Day Procedures

Note: Each step applies to both RFC and WFO systems unless otherwise noted.

1. Verify that all applicable steps in Part 0 have been completed.
2. Contact the NCF and advise the engineer that the site is beginning the OB4 upgrade.  
Trouble Ticket Number \_\_\_\_\_
3. Initiate service backup, if applicable.
4. For sites with a radar system, send a free text message indicating that radar information will not be available during the OB4 upgrade.
5. Sites with data feeds to the FAA should contact the FAA site.
6. Weather Wire uplink sites should contact Dyncorp, if necessary.
7. Sites hosting a CWSU connection should have the CWSU log out of the D2D on the CWSU system. Then unplug the wire to port 16 on the waveswitch in the equipment room to prevent accidental login by CWSU personnel during the upgrade.
8. Terminate and exit all D2D sessions, text and graphics workstations, AWIPS applications, and any site specific applications that run via crons on all graphic and text workstations.
9. Select a device to perform the upgrade. Generally, the device should be a graphics Linux workstation, but it can also be done from the xyplex console.
10. Log on to the workstation as the `root` user. **Do not log in as `awipsusr`.**
11. Run a system check using `AWIPScleanup.sh`.  
The script has been updated in OB4. It performs several checks that are needed before installation. As the script runs, output displays on the screen, prints, and is written to three different files for future reference. A `check_process` script is also created, which is used in Part 7.
  - a. Open a terminal window and log on to **DS1** as `root`.  
  
`rlogin ds1`
  - b. Change the directory and run the script. Type the following:  
  
`cd /home/awipsadm/install`  
`./AWIPScleanup.sh`
12. Using the output from `AWIPScleanup.sh` (either from the screen or from the file), verify the following items. If a problem is encountered, contact the NCF.
  - a. Verify connectivity to all machines.  
Output should be: `as1 as2 ds1 ds2 px1 px2 lx1-<site> lx2-<site>` etc. If the LDAD server (LS1) or other workstations do not respond, check the non-responding system(s).
  - b. Check swap packages on the HP machines.  
The system should be in normal operation with no swap packages failed over. Output should be: `All packages on primary`. If all packages are not on primary or enabled, check and correct the appropriate packages.

- c. Check Release ID.  
The Release ID must be at least OB3.2, and is recommended to be OB3.3 on all WFO systems.
- d. Check localization variables.  
Verify that the site is localized correctly. Output should list the `SITE_TYPE`, `FXA_LOCAL_SITE`, `FXA_INGEST_SITE`, `FXA_LOCAL_TZ`, `NODE` (on WFO systems only), and the current satellite feed.
- e. Check for unsuccessful localizations.  
If the site performed an unsuccessful localization, a file called `.unSafe` was written to `/awips/fxa/data/localizationDataSets/LLL` on PX2. If this file exists, it must be deleted before the install begins. Output should be: no `.unSafe` file detected. If an `.unSafe` file exists, manually delete it.
- f. Check AvnFPS version (WFO systems only).  
If the site is a WFO system, the script displays the latest version installed. Verify that at least version 2.0 is listed.
- g. Check IFPS version (WFO systems only).  
If the site is a WFO system, the script displays the latest version installed. The last entry is the IFPS version most recently installed on the system. Verify that at least IFPS 15.3 is listed.
- h. Automatic cleanup of HP server directories.  
The script runs the `cleanup_localization.sh` script on AS1, AS2, DS1, and DS2.
- i. Check partition sizes of `/home`, `/usr/local` and `/ldad` on HP machines.  
If the `/home` or `/ldad` directories are above 85 percent full, or if the `/usr/local` directory is above 75 percent full, the script indicates to remove or delete files to reduce size.
- j. Check localization files.  
During the OB4 installation, a full localization is run on PX2 and then the results are pushed out to the other servers and workstations. As a consequence, unsatisfactory results may occur if there are different localization files on each system. Review the `/home/ncfuser/AWIPSCheckout<date>.localfiles` and make any necessary changes.

In addition, localization scripts choose files from directories in the following order of preference:

- `/data/fxa/customFiles/<filename>`
- `/awips/fxa/data/localization/<site_id>/<site_id>-<filename>`
- National templates under various directories (e.g., `/awips/fxa/data`)

Check to ensure that the intended active file is not overridden by an identically named file in a higher priority directory. Consult with the onsite localization expert for more information.

- k. Check Informix status.  
Verify that the Informix server is primary, online and replicating.

I. Check for stale NFS file handle.

The script executes a `df` for `/px1data` and `/px2data` on each workstation. Verify that:

- i. `/px1data` and `/px2data` are present, and
- ii. The percentages are non-zero.

If a workstation is found that does not meet the above criteria, log on to the suspected workstation as `root` and do the following steps to unmount and remount the PX data drives:

1. `umount /px1data /px2data`
2. `mount -a`
3. `df` (use to recheck steps i and ii above)
4. `exit` (exits back to DS1)

m. Check for non-root users.

The script issues a `who -u` command on each workstation. Verify there are no non-root users on any workstation.

13. Uninstall the OB3.3/OB4 alpha WWA application (WFO systems only).

WFO systems that installed OB3.3, actually installed an OB4 alpha version of the WWA application. This version must be removed in order to provide a clean install of OB4. The removal of the application does not affect any customized templates. Error information and sample output are shown in the *Script Log Output* document, sections 1.1 and 1.2.

From **DS1** as `root`, type the following steps:

- a. `cd /data/local/tmp`
- b. `script -a /data/local/tmp/wwa_OB4_alpha_deinstall_log.out`
- c. `./WWA_OB4_INSTALL_DEINSTALL.sh -dein` (takes 1 to 3 minutes)

Once the script ends, terminate the logging session, by typing the following steps:

- d. `ps -ef |grep script`

Find the process ID (PID), then terminate the process by typing:

- e. `kill <PID>`
- f. `exit` (returns to the Linux Workstation)

14. Load the CD on PX2 and run the prepare script. Error information and sample output are shown in the *Script Log Output* document, sections 1.3 and 1.4.

- a. Take the LDAD, FREEWARE, LINUX WFO-A, LINUX NGIT CD and insert it into the CD-ROM drive on PX2.

- b. From a **Linux Workstation** as `root`, type the following:

- i. `export TMOUT=0`

- ii. `rlogin px2`
- iii. `mkdir -p /local/install`
- iv. `script -a -f /local/install/prepare_OB4.out`
- v. `mount /mnt/cdrom`
- vi. `cd /mnt/cdrom`
- vii. `./prepare_OB4` (takes about 10 to 15 minutes)

If the script reports the following type of error near the beginning of the script:  
`ssh: connect to host lx5 port 22: Connection refused`

The script will exit abnormally and require user action. If this happens, log in to the specified node and execute the following as `root`:

- 1. `/etc/init.d/sshd start`
- 2. `exit` (returns to PX2)

Then, restart the `prepare_OB4` script.

- viii. `exit` (exits the script)

Review the script output file, `/local/install/prepare_OB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

15. Install SSH keys for NCF access. Error information and sample output are shown in the *Script Log Output* document, sections 1.5 and 1.6.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/setupNCFSSHkeys.out`
- b. `/home/awipsadm/ssh/setupSSHkeys.sh` (takes < 1 minute)
- c. `exit` (exits script)

Review the script output file, `/local/install/setupNCFSSHkeys.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

Exit out of PX2 and return to the Linux Workstation for the next step. Type:

- `exit` (returns to Linux Workstation)

16. Check for PX BIOS updates and install if needed. The PX BIOS was updated in OB3.2. A script is run on DS1 to verify if the update was correctly installed. Error information and sample output are shown in the *Script Log Output* document, sections 1.7 and 1.8.

Type the following commands:

- a. `rlogin ds1`
- b. `script -a /home/ncfuser/installPXupdates_OB4.out`

c. `cd /home/awipsadm/install`

d. `./px_bios_bcm_chk.sh px1` (takes about 1 minute)

If the script indicates the BIOS is not installed, type the following to install the BIOS and reboot the PX:

i. `./px_bios_bcm_updt.sh px1` (takes about 15 minutes)

ii. `./px_bios_bcm_chk.sh px1` (takes about 1 minute)

If the script still indicates that the BIOS is not installed, call the NCF.

e. `./px_bios_bcm_chk.sh px2` (takes about 1 minute)

If the script indicates the BIOS is not installed, type the following to install the BIOS and reboot the PX:

i. `./px_bios_bcm_updt.sh px2` (takes about 15 minutes)

ii. `./px_bios_bcm_chk.sh px2` (takes about 1 minute)

If the script still indicates that the BIOS is not installed, call the NCF.

iii. `rlogin px2`

iv. `mount /mnt/cdrom` (remounts the CD)

v. `exit` (returns to DS1)

f. **Step f is only for site AFC.** Repeat steps d and e, substituting PX3 and PX4 for PX1 and PX2.

g. `exit` (exits from script)

h. `exit` (returns to Linux workstation)

17. Return to PX2 and disable the auto logout. Type the following:

a. `rlogin px2`

b. `export TMOUT=0`

**If no errors occurred, proceed to Part 2. Otherwise, contact the NCF.**

## Part 2 Install OB4 LDAD Software

Note: This part is required for both WFO systems and RFC systems. However, certain nonoperational sites that do not have an LDAD system can skip Part 2 and proceed with Part 3.

1. Automatically Saved and Restored Information. The files mentioned in Appendix A, Section 1 are replaced. The ROB3 versions of those files are saved to /px2data/BACKUPLDADOB3 by the installLDADOB4 script.
2. Disable interfaces to LDAD.
  - a. Prevent ASOS from dialing in to LDAD by turning off the dial-in phone lines on the LDAD.
  - b. Disable any other interfaces to LDAD.
3. Disable LDAD applications, as applicable. Begin by logging on to the **LS1** as `root`.
  - a. `rlogin ls1`
  - b. Stop all local running software, including samba, ldm, and the dissemination server. The following are examples on how to stop each application; however, local sites may have slight modifications.
    - i. Samba.
      1. Edit the `/etc/inetd.conf` file. Comment out the 3 lines that contain `smbd`, `nmbd`, and `swat` by placing a `#` at the beginning of each line. Save the file.  
  
Then, type the following commands:
        2. `inetd -c`
        3. `ps -ef | grep -i smbd`  
Terminate any `smbd` processes that are running.
    - ii. LDM.  
There are a couple of different variations to stop the local data manager. Choose the appropriate commands.  
  
Type the following:
      1. `su - ldad` (some sites use `ldm` instead of `ldad`)
      2. `./ldmadmin stop`
      3. `exit`

Central Region uses:

```
su - ldm
cd /usr/local/ldm/runtime/bin
./ldmadmin.in stop
exit
```

- iii. Dissemination Server.  
Type the following commands:
  - 1. `su - ldad`
  - 2. `/ldad/bin/DServer stop`
  - 3. `exit`
- c. Disable any crons that may restart LDAD applications.
- d. Return to PX2. Type the following:  
  
`exit` (exits out of LS1 and returns to PX2)
- 4. Run the LDAD install script. Error information and sample output are shown in the *Script Log Output* document, sections 2.1 and 2.2.  
  
From **PX2** as user `root`, type the following commands:
  - a. `script -a -f /local/install/installLDADOB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./installLDADOB4` (Takes about 10 to 15 minutes.)
  - d. `exit` (Exits the script.)
- 5. Review the script output file, `/local/install/installLDADOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

**If no errors occurred, proceed to Part 3. Otherwise, contact the NCF.**

### Part 3 OB4 MSAS Script

Note: This part is required for both WFO systems and RFC systems.
---

1. Automatically Saved and Restored Information. The files mentioned in Appendix A, Section 2 are replaced. The ROB3 versions of those files are saved to `/px2data/BACKUPMSASOB3` by the `installMSASOB4` script.
2. Run the MSAS install script. Error information and sample output are shown in the *Script Log Output* document, sections 3.1 and 3.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installMSASOB4.out`
- b. `cd /mnt/cdrom`
- c. `./installMSASOB4`

The script generally takes about 10 to 15 minutes, but can take up to 30 minutes at sites with heavy use of MSAS.

- d. `exit` (Exits the script.)
3. Review the script output file, `/local/install/installMSASOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

**If no errors occurred, proceed to Part 4. Otherwise, contact the NCF.**

## Part 4 Install Linux Software

Note: This part is required for both WFO systems and RFC systems. Step 2 is completed at OCONUS sites only.

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the OCONUS setup script.  
**(Alaska, Hawaii, Guam, and Puerto Rico sites only)**  
Error information and sample output are shown in the *Script Log Output* document, sections 4.1 and 4.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installOCONUS_SetupOB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./OCONUS_Setup` (Takes < 1 minute)
  - d. `exit` (Exits script)
3. Run the script to move NDM files and check for stale NFS mounts **(All sites)**.  
Error information and sample output are shown in the *Script Log Output* document, sections 4.3 and 4.4.

From **DS1** as user `root`, type the following commands:

- a. `script -a /home/ncfuser/moveob4files.out`
- b. `cd /data/local/nationalData`
- c. `./moveob4files.sh` (Takes < 1 minute)
- d. `exit` (Exits the script)

Check for stale NFS file handle. The `moveob4files.sh` script executes a `df` for `/px1data` and `/px2data` on each workstation. Verify that:

- i. `/px1data` and `/px2data` are present, and
- ii. The percentages are non-zero.

If a workstation is found that does not meet the above criteria, log on to the suspected workstation as `root` and do the following steps to unmount and remount the PX data drives.

1. `umount /px1data /px2data`
  2. `mount -a`
  3. `df` (use to recheck steps i and ii above)
  4. `exit` (exits back to DS1)
4. Run the install Linux script. Error information and sample output are shown in the *Script Log Output* document, sections 4.5 and 4.6.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installPXLXOB4.out`
- b. `cd /mnt/cdrom`
- c. `./installPXLX_OB4` (Takes about 60 to 80 minutes)

The following output remains on the screen for about 10 minutes

```
Installing WFOA on px2...
```

- d. `exit` (Exits the script)
5. Review the script output file, `/local/install/installPXLXOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
6. Check PX cluster. Type the following command:

```
clustat
```

From the output, verify `px1apps` is running on PX1 and `px2apps` is running on PX2. Contact NCF if the apps are not in the correct location.

**If no errors occurred, proceed to Part 5. Otherwise, contact the NCF.**

### Part 5 Install OB4 CP Software

Note: This part is required for both WFO systems and RFC systems.
---

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the install CP script. Error information and sample output are shown in the *Script Log Output* document, sections 5.1 and 5.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installCP_OB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./installCP_OB4` (Takes about 5 minutes)
  - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installCP_OB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

**If no errors occurred, proceed to Part 6. Otherwise, contact the NCF.**

## Part 6 Install OB4 Archiver Software

Note: This part is required for both WFO systems and RFC systems.
---

1. Automatically Saved and Restored Information. On WFO systems, the current Archive Setup config files are saved off with a .bak extension in `/awips/archiver/arch_root/config`. On RFC systems, no files are saved off.
2. Run the archiver install script. Error information and sample output are shown in the *Script Log Output* document, sections 6.1 and 6.2 for WFO systems archiver (WAX), and sections 6.3 and 6.4 for RFC systems archiver (RAX).

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installAXOB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./installAX_OB4` (Takes about 5 minutes)
  - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installAXOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
  4. The default configuration is loaded. Any site-specific changes can be merged in from the backup files in `/awips/archiver/arch_root/config`.

**If no errors occurred, proceed to Part 7. Otherwise, contact the NCF.**

### Part 7 Install OB4 RP Software

Note: This part is for RFC systems only. WFO systems proceed to Part 8.

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the River Ensemble script. Error information and sample output are shown in the *Script Log Output* document, sections 7.1 and 7.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installRPOB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./installRP_OB4` (Takes about 5 minutes)
  - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installRPOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
  4. The River Ensemble script updated `/awips/fixa`, `/awips/ops` and the freeware on the RP processors. Any OH updates need to be copied over manually.

**If no errors occurred, proceed to Part 8. Otherwise, contact the NCF.**

## Part 8 OB4 Pre-Install Script

Note: This part is required for both WFO systems and RFC systems.
---

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the pre-install script. Error information and sample output are shown in the *Script Log Output* document, sections 8.1 and 8.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/preinstallOB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./preinstall_OB4` (Takes about 50 to 70 minutes)
  - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/preinstallOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered. Also check for no space left on device and no such file or directory as files are copied to the `/usr/local` directory.
  4. Check and terminate any stray processes on DS1, DS2, AS1, AS2, and the workstations.

From **DS1** as user `root`, type the following commands:

- a. `cd /home/ncfuser`
- b. `./check_process > check_process.out` (Takes < 1 minute)

Review the `/home/ncfuser/check_process.out` file to check for any remaining processes. If a stray process is detected, terminate the process ID by using `kill <PID>`, or if necessary, `kill -9 <PID>` with the following exceptions:

- i. `/awips/hydroapps/whfs/standard/bin/process_dpfiles`  
Terminate by typing `/sbin/init.d/hdpdecode stop`.
  - ii. `x400mta -d/usr/x400mail`  
Terminate by typing `/awips/ops/bin/x400mta_stop`.
  - iii. `/awips/fxa/bin/ctrlCpu`  
This is allowable on Linux machines, but must be terminated with the `kill` command if it is on an HP machine.
- c. Repeat step b until all applicable processes are stopped.
  - d. Exit out of DS1 and return to PX2. Type:  
  
`exit` (returns to PX2)
5. Remove first CD from PX2 CD-ROM drive, and insert the OH, LAPS CD.

From **PX2** as user `root`, type the following commands:

- a. `cd /`
- b. `eject cdrom`

Remove the first CD from the drive, and insert the OH, LAPS CD in to the CD-ROM drive. Next, mount the new CD by typing:

- c. `mount /mnt/cdrom`

**If no errors occurred, proceed to Part 9. Otherwise, contact the NCF.**

## Part 9 Install OB4 LAPS Software

Note: All RFC systems and sites HFO, GUM, PBP, and SJU skip Part 9 and proceed to Part 10. All other WFO systems continue with Part 9.

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the LAPS install script. Error information and sample output are shown in the *Script Log Output* document, sections 9.1 and 9.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installLAPSOB4.out`
- b. `cd /mnt/cdrom`
- c. `./installLAPS_OB4` (Takes about 5 minutes)
- d. `exit` (Exits the script)

Review the script output file, `/local/install/installLAPSOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

**If no errors occurred, proceed to Part 10. Otherwise, contact the NCF.**

## Part 10 Install OB4 Hydrology Software

Note: This part is required for both WFO systems and RFC systems. WFO systems skip step 3.

1. Automatically Saved and Restored Information. No files are saved off on WFO systems. RFC systems have an interactive script which can restore existing OHD software if the site answers yes to those questions.
2. Run the Hydro install script. Error information and sample output are shown in the *Script Log Output* document, sections 10.1 and 10.2 for WFO systems, and sections 10.3 and 10.4 for RFC systems.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installOHOB4.out`
- b. `cd /mnt/cdrom`
- c. `./installOH_OB4`

Takes about 10 minutes for WFO systems and 30 to 60 minutes for RFC systems. RFC systems should review step 3 for more information on the interactive script.

3. Interactive questions for RFC systems. (RFC systems only.)  
The first set of questions deal with error checking.

Did the above command complete without error (i.e., no space left) (y/n)?

Answer `y` or `n` as appropriate.

The second set of questions allows the option of restoring the existing OHD software or keeping the newly installed R25.0 version of the software.

Do you want to replace Linux nwsrfs with saved off version (y/n)  
Do you want to replace Linux ffg with saved off version (y/n)  
Do you want to replace Linux verify with saved off version (y/n)  
Do you want to replace Linux xdat, xnav, and xsets with saved off version (y/n)

Answer `y` to have the pre-OB4 version restored.  
Answer `n` to keep the newly installed R25.0 version.

4. Exit the OHOB4 script output. Type:

`exit`

5. Review the script output file, `/local/install/installOHOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

6. Remove OH, LAPS CD from PX2 CD-ROM drive, and insert the ADAPT, HP WFO-A, NMAP, NGIT UX CD.

From **PX2** as user `root`, type the following commands:

- a. `cd /`
- b. `eject cdrom`

Remove the CD from the drive, and insert the ADAPT, HP WFO-A, NMAP, NGIT-UX CD in to the CD-ROM drive. Next, mount the new CD by typing:

- c. `mount /mnt/cdrom`

**If no errors occurred, proceed to Part 11. Otherwise, contact the NCF.**

## Part 11 Install OB4 ADAPT Software

Note: This part is for WFO systems only. RFC systems proceed to Part 12.
--

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the ADAPT install script. Error information and sample output are shown in the *Script Log Output* document, sections 11.1 and 11.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installADAPTOB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./installADAPT_OB4` (Takes from 5 to 20 minutes)
  - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installADAPTOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

**If no errors occurred, proceed to Part 12. Otherwise, contact the NCF.**

## Part 12 Install OB4 NMAP Software

Note: This part only applies to the specific sites listed. Sites not included in the list should proceed to Part 13.

ACR, AFC, AFG, AJK, ALR, BCQ, EHU, FWR, GUM, HFO, KRF, MFL, MSR, NHCR, NHCW, NHDA, NHOR, NHOW, ORN, PBP, RHA, SJU, SPCW, TAR, TIR, TUA, VHW, VRH, VUY, WNAW, WNOR, WNOW.

1. Automatically Saved and Restored Information.  
The oldest version of NMAP (\$NMAP\_DIR/old) is removed.  
The current version is moved to \$NMAP\_DIR/old.  
The OB4 version is installed in \$NMAP\_DIR/current.
2. Run the NMAP install script. Error information and sample output are shown in the *Script Log Output* document, sections 12.1 and 12.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installNMAPOB4.out`
- b. `cd /mnt/cdrom`
- c. `./installNMAP_OB4` (Takes about 15 minutes)

The following output remains on the screen for about 10 minutes

Installing NMAP version 5.7.2...

- d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installNMAPOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

**If no errors occurred, proceed to Part 13. Otherwise, contact the NCF.**

## Part 13 Install OB4 FXA/System Software

Note: This part is required for both WFO systems and RFC systems.
---

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the FXA install script. Error information and sample output are shown in the *Script Log Output* document, sections 13.1 and 13.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/installOB4.out`
- b. `cd /mnt/cdrom`
- c. `./install_OB4` (Takes from 60 to 100 minutes)

The following output can remain on the screen for some time.

Running /awips/laps/etc/localize\_domain.pl

- d. `exit` (Exits the script)
3. Review the script output file, `/local/install/installOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
  4. Restart LDAD applications, as applicable. Begin by logging on to the LS1 as `root`.
- a. `rlogin ls1`
  - b. Start all local running software, including `samba`, `ldm`, and the dissemination server. The following are examples on how to start each application. However, local sites may have slight modifications.

- i. Samba.

1. Edit the `/etc/inetd.conf` file. Clear the comment character by removing the `#` from the 3 lines that contain `smbd`, `nmbd`, and `swat`. Save the file.

Type the following command:

2. `inetd -c`

- ii. LDM.

There are a couple of different variations to start the local data manager. Choose the appropriate commands.

Type the following:

1. `su - ldad` (some sites use `ldm` instead of `ldad`)
2. `./ldmadmin start`

3. **exit**

Central Region uses:

```
su - ldm
cd /usr/local/ldm/runtime/bin
./ldmadmin.in start
exit
```

iii. Dissemination Server.

Type the following commands:

1. **su - ldad**
2. **/ldad/bin/DServer start**
3. **exit**

c. Restore any crons that may restart LDAD applications.

d. Exit out of LS1. Type the following:

**exit** (Exits out of LS1 and returns to PX2.)

5. Restore interfaces to LDAD.

a. Turn on the dial-in phone lines to allow ASOS to access LDAD.

b. Restore any other interfaces to LDAD.

**If no errors occurred, proceed to Part 14. Otherwise, contact the NCF.**

### Part 14 OB4 Post Install Script

Note: This part is required for both WFO systems and RFC systems.
---

1. Automatically Saved and Restored Information. No files are saved off.
2. Run the post-install script. Error information and sample output are shown in the *Script Log Output* document, sections 14.1 and 14.2.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/postinstallOB4.out`
  - b. `cd /mnt/cdrom`
  - c. `./postinstall_OB4` (Takes about 5 to 10 minutes)
  - d. `exit` (Exits the script)
3. Review the script output file, `/local/install/postinstallOB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.
  4. Remove the ADAPT, HP WFO-A, NMAP, NGIT UX CD from PX2 CD-ROM drive.

From **PX2** as user `root`, type the following commands:

- a. `cd /`
- b. `eject cdrom`

Remove the CD from the PX2 CD-ROM drive.

At this point, the system is up and running, but users cannot log into the system to start D2D until the user name setup is run in Part 15.

**If no errors occurred, proceed to Part 15. Otherwise, contact the NCF.**

## Part 15 OB4 After Install Procedures

Note: Each step applies to both RFC and WFO systems unless otherwise noted.
---

1. Create or reconfigure individual user names. Refer to Appendix C for additional information.

From **PX2** as user `root`, type the following to run the script that was created in Part 0, step 17:

- a. `cd /home/awipsadm/install`
- b. `./ob4users.sh` (takes about 90 seconds per username)

To run the script for a single username, for example `jsmith`, type the following.

```
./setupAwipsUser.sh jsmith RSH Joe Smith
```

2. Establish passwords for new usernames.  
If new users were created in step 1, a password must be set for each user. It is recommended to use the old `awipsusr` password for this step and instruct the user to change the password after the initial login.

From **DS1** as user `root`, type the following commands. The example sets the password for `jsmith` and `bjones`:

- a. `passwd jsmith`
- b. `passwd bjones`
- c. `/var/yp/ypmake`

3. Allow users to log on to the system.  
At this point, the users can log on to the system and begin to check things out. Advise users to change the password after login by using the GUI that was created in Part 0, step 17 or by going to an xterm window and typing in `yppasswd`.

Also, advise users that the menu to start D2D and other applications is found by doing a left click on the main workspace.

Additional checkout procedures are listed in step 5.

4. Restore access to CWSU systems (applicable to sites that host CWSUs).
  - a. Reconnect the wire to port 16 on the waveswitch in the equipment room if it was unplugged in Part 1, step 7.
  - b. Follow the procedure in Appendix D to establish the `cwsuser` account and edit the ARD scripts.
  - c. Have the CWSU personnel login to their system as `awipsusr` and verify a successful connection.

## 5. System checkout.

The following items should be checked to verify that the system is running properly.

- a. Netscape System Monitoring Window.  
Start the netscape browser and verify that servers and processes are functioning normally.

- b. Netscape bookmarks.

The bookmarks for `awipsusr` are stored in each users home directory:

```
/home/<username>/netscape/bookmarks.html.old
```

Merge any previous bookmarks as needed into `bookmarks.html`.

- c. Radar products (applicable to sites that host radars).

Verify that radar products are being stored locally. In addition, verify that radar products are being sent out over the WAN by checking to the following web site:

<http://weather.noaa.gov/monitor/radar>

- d. Reboot Xyplex server.

The xyplex menu was updated in Part 1. Reboot the xyplex using the xyplex tool to see the updated menu changes.

- e. Remove obsolete WWA directories (WFO systems only)

On **DS1** as user `root`, type the following commands:

- i. `rm -rf /data/local/TEMP_WWA_OB4_INSTALLATION_DIR`
- ii. `rm -rf /data/local/BACKUP*DIR`

## 6. Additional RFC system checkout (RFC systems only).

Check the following RFC specific items.

- a. As user `oper`, start the RFC specific `oper` cron.
- b. Check to see if the `shefdecoder` is running.
- c. Check to see if `DPA` decoder is running.
- d. Verify that `APPS_DEFAULTS` is pointing to `/awips/hydroapps/.Apps_defaults`.
- e. Verify that `APPS_DEFAULT_USER` and `APPS_DEFAULT_SITE` environment variables are set.
- f. Verify that the following directories are in the user's path.  
`/awips/hydroapps/rfc/nwsrfs/ofs/scripts`  
`/awips/hydroapps/public/bin`  
`/usr/X11R6/bin`.
- g. Verify that the `fun` function is set up on login.

## 7. Setup automatic launch of Text Workstations (optional).

Prior to OB4, when the `textdemo` user logged into the XT, the text workstation application automatically started. This feature is disabled in OB4. However, if the site is concerned

that the individual users could forget to start the application, do the following steps to restore the automatic startup.

From a **Linux Workstation** as `fxa`, type the following:

- a. `umask 000`
  - b. `cd /awips/fxa/bin`
  - c. `ln -s ./startTextWsonXT ./runTextWsonXT`
8. Merge customized site changes into crons (optional).  
Any site specific changes to the crons can be merged into the active crons as needed. However, check carefully before adding any items to the cron since some applications (such as HWR) have moved to the PXs.
  9. Hydro information for WFO systems and RFC systems.
    - a. Check the RiverPro application (applicable to sites that use RiverPro).  
If the RiverPro application is not working, review Section E in the OB3.3 release instructions, and complete steps as necessary.
    - b. Sacramento Rainfall-Runoff model (optional)  
New functionality includes the incorporation of the Sacramento Rainfall-Runoff model with the SiteSpecific stream forecast model. Implementation of this feature is an activity coordinated between the WFO and the supporting RFC. When it is implemented, new entries in the `oper` crontab are needed, using cron scripts provided with this release. When ready, the WFO and RFC should set up the cron jobs and other model setup steps using instructions found on the HSD WHFS Support web page: <http://www.nws.noaa.gov/om/whfs/>
    - c. Adjust file retention criteria for the Multi-sensor Precipitation Estimator (MPE) (optional)  
If the site is already running MPE operations and not having disk space problems, then it is not necessary to adjust file retention.

To reduce retention, edit

`/awips/hydroapps/precip_proc/bin/purge_mpe_files.`

Find the line that contains `mtime ##` and reduce the `##` variable. A value of 1 actually implies retention of 2 days, a value of 2 implies retention of 3 days, etc.

- d. Activate new grids with MPE operations (optional).  
New functionality includes two new precipitation grids as part of MPE operations:  
    local bias corrected multi-sensor mosaic field and  
    local bias corrected satellite field.

The default setting is set to OFF, but can be activated by setting the following

`/awips/hydroapps/.Apps_defaults_site` tokens to ON:

`mpe_mlmosaic_calc` (for multi-sensor), and  
`mpe_lsatsatprec_calc` (for satellite).

Additional information is provided in the HydroView/MPE documentation.

10. WWA/WarnGen Template Information (WFO systems only).

The only difference between OB3.3 and OB4 is that all WWA templates, including a corrected `wwa_mws.preWWA` template, are delivered into `/data/fxa/nationalData`.

The only difference between OB3.3 and OB4 in WarnGen templates is a corrected `wwa_mws_nosmw.preWWA`.

Continue to customize WWA and WarnGen templates, as needed, according to the instructions in release OB3.3.

11. Localization for Backup sites.

A backup localization needs to be run before the WWA and WarnGen applications can be used in backup mode.

12. Maintenance Release.

This is a reminder that maintenance releases to OB4 should be installed on the day of the upgrade, if appropriate.

The web page with AWIPS Software and Maintenance Release information is located at the following link:

[http://www.ops1.nws.noaa.gov/awips\\_software.htm](http://www.ops1.nws.noaa.gov/awips_software.htm)

13. Miscellaneous Post Install Information.

a. Local entries in the virtual field table could produce unexpected results when using the ETA40 model due to a bug that mixes ETA20 and ETA40 data. Detailed workaround information is available in the *OB4 Release Notes*.

b. OB4 delivers a new version of Tcl/Tk. One beta site noticed that code with square brackets, e.g., `catch [action]`, was causing errors to be displayed. A change to curly braces, e.g., `catch {action}`, seemed to take care of the problem.

c. Information on how D2D User IDs and new login accounts interact.

- i. The D2D application has a set of User IDs defined in the `/awips/fxa/data/fxa-users` file on each workstation. The format of `fxa-users` is account name on the left and user real name on the right.

# Acct	Name
#-----	-----
martin	Martin
moss	Moss

- ii. User IDs are activated on the D2D by choosing **File:Select User ID...** from the main D2D application and choosing the Name from the Select User ID GUI.

- iii. Acct names in `fxa-users` point to a procedure directory located at `/data/fxa/procs`. For example, User ID Martin has a directory named `/data/fxa/procs/martin`.

- iv. The `setupAwipsUser.sh` script adds additional User IDs to the `fxa-users` file for any newly created individual user names that were different than the User IDs previously defined before OB4. For example, if the `setupAwipsUser.sh` script creates `wmartin` as the new login name and Wayne Martin as the real name, then the `fxa-users` has a new entry listed below:

```
# Acct      Name
#-----
martin      Martin
moss        Moss
wmartin     Wayne Martin
```

- v. Once the new entry is selected from the Select User ID GUI, a new procedure directory in `/data/fxa/procs` is created. So, when Wayne Martin is selected in the GUI, the `/data/fxa/procs/wmartin` directory is created.

Therefore, it is possible to have two procedure directories for one user. One directory has the previously defined procedures and the other directory is the newly created (empty) one. Review the example for a suggestion on how to clean up the directories and link the old procedures to the new username.

Given the following example:

```
lx1-nmtw:ncfuser:\3$ cd /data/fxa/procs
lx1-nmtw:ncfuser:\4$ ls -l
total 6784
...
drwxrwxr-x  23 fxa      fxalpha      1024 Nov 20  2001 martin
drwxrwxr-x   3 fxa      fxalpha          96 Sep 10 12:30 wmartin
...
drwxrwxr-x   4 fxa      fxalpha          96 Sep 10 12:35 mmoss
drwxrwxr-x  35 fxa      fxalpha      1024 Feb 26  2004 moss
...
```

The pre-existing procedures are in the `martin` and `moss` directories.

As user `root` on **DS1**, move those directories into `wmartin` and `mmoss` as follows:

```
cd /data/fxa/procs
rm -rf wmartin      (removes empty wmartin directory)
mv martin wmartin   (copies old directory to new username)
rm -rf mmoss        (removes empty mmoss directory)
mv moss mmoss       (copies old directory to new username)
```

To complete the cleanup, edit the `/awips/fxa/data/fxa-users` file on LX1 and remove the lines with the old `martin` and `moss` IDs. Copy the corrected `fxa-users` file to all other workstations.

- vi. Ownership and permissions in `/data/fxa/procs` are set the first time a User ID is opened. As a consequence, if `wmartin` opens up `mmoss`'s User ID

before `mmoss` opens it, then the ownership and permissions are set to `wmartin`. This scenario prevents `mmoss` from saving any procedures in `mmoss`'s directory. There can also be ownership problems if a user saves a procedure in another user's directory. Review the example for a suggestion on how to fix these problems.

Given the following example:

```
lxl-nmtw:ncfuser:\5$ cd /data/fxa/procs
lxl-nmtw:ncfuser:\6$ ls -l
total 6784
...
drwxr-xr-x  23 wmartin  fxalpha    1024 Sep 10 12:30 wmartin
...
drwxr-xr-x  35 wmartin  fxalpha    1024 Sep 10 12:35 mmoss
...
```

The `mmoss` directory is owned by `wmartin`. Correct ownership and permissions problems by typing the following:

```
chown -R mmoss:fxalpha mmoss
chmod -R 775 *
```

Now, `mmoss` is able to save procedures under the `mmoss` username.

14. LDAD Post Install Procedures (optional).

If the site had customized changes to the files that are listed in Appendix A, section 1, merge the changes into the appropriate files. When complete, stop and start LDAD.

From **DS1** as user `ldad`, type the following commands:

- a. `cd /awips/fxa/ldad/bin`
- b. `stopLDAD.sh`
- c. `startLDAD.csh`

15. LDAD Backup.

LDAD executables and/or configuration files have been changed as a result of this installation. Therefore, once the installation has been completed along with the after-installation procedures, and the system is working correctly, generate a new LDAD backup. This should be done a week or so after the upgrade using System Administration Note 12 entitled *LDAD Backup and Restore Procedure*. This document can be found on the following web page:

<http://www.ops1.nws.noaa.gov/AWIPSSystemAdminNotes.htm>

### Appendix A LDAD and MSAS files replaced in OB4

1. The following list of LDAD files are replaced during Part 2 of the install. The OB3 versions of the LDAD files are saved in /px2data/BACKUPLDADOB3.

```

/awips/fxa/htdocs/cgi-bin/start_process.pl
/awips/fxa/htdocs/ldadMon/bin/MakePROCpage
/awips/fxa/htdocs/ldadMon/conf/proc_internal.conf
/awips/fxa/htdocs/ldadMon/conf/ldadAdmin.conf-default
/awips/fxa/ldad/bin/cleanMsg
/awips/fxa/ldad/bin/check_reply
/awips/fxa/ldad/bin/cleanMsg
/awips/fxa/ldad/bin/preprocessRRS.pl
/awips/fxa/ldad/bin/preprocessSUA.pl
/awips/fxa/ldad/bin/preprocessDTMF.pl
/awips/fxa/ldad/bin/preprocessSUTRON.pl
/awips/fxa/ldad/bin/preProcessWAN_NWWS.pl
/awips/fxa/ldad/bin/preprocessCAMPBELL.pl
/awips/fxa/ldad/bin/preprocessROSA.pl
/awips/fxa/ldad/bin/CO_serv
/awips/fxa/ldad/bin/listener
/awips/fxa/ldad/bin/mkdir_internal_data.csh
/awips/fxa/ldad/bin/tell_co
/ldad/bin/check_reply
/ldad/bin/cleanMsg
/ldad/bin/CO_serv
/ldad/bin/MakePROCpage
/ldad/bin/newLDADdataNotification
/ldad/bin/rb
/ldad/bin/rc
/ldad/bin/rx
/ldad/bin/rz
/ldad/bin/sb
/ldad/bin/suaReceiver
/ldad/bin/sx
/ldad/bin/sz
/ldad/bin/tell_co
/ldad/bin/zcommandi
/ldad/bin/zcommand

```

2. The MSAS application is moved from the AS to the PXs during the OB4 install. In addition, the following three files are linked, so that they are globally accessible.

```

/awips/fxa/ldad/MSAS/fslparms/accept.txt is linked to
/data/fxa/LDAD/accept.txt

```

```

/awips/fxa/ldad/MSAS/fslparms/reject.txt is linked to
/data/fxa/LDAD/reject.txt

```

```

/awips/fxa/ldad/MSAS/fslparms/sfchqc.in.dat is linked to

```

/data/fxa/LDAD/sfchqcin.dat

The following list of MSAS files are replaced during Part 3 of the install. The OB3 versions of the MSAS files are saved in /px2data/BACKUPMSASOB3.

```
/awips/fxa/ldad/MSAS/bin/asos.exe
/awips/fxa/ldad/MSAS/bin/blncmp.exe
/awips/fxa/ldad/MSAS/bin/domcmp.exe
/awips/fxa/ldad/MSAS/bin/prmcmp.exe
/awips/fxa/ldad/MSAS/bin/tidcmp.exe
/awips/fxa/ldad/MSAS/bin/trncmp.exe
/awips/fxa/ldad/MSAS/bin/create_MSAS_links.csh
/awips/fxa/ldad/MSAS/bin/qcstats.exe
/awips/fxa/ldad/MSAS/bin/qcstg1_2.exe
/awips/fxa/ldad/MSAS/bin/qcstg3.exe
/awips/fxa/ldad/MSAS/bin/sfcanl.exe
/awips/fxa/ldad/MSAS/bin/sfchqc.exe
/awips/fxa/ldad/MSAS/bin/sfcing.exe
/awips/fxa/ldad/MSAS/bin/sfcncdf.exe
/awips/fxa/ldad/MSAS/bin/sfcnmc.exe
/awips/fxa/ldad/MSAS/bin/sfcver.exe
/awips/fxa/ldad/MSAS/FSL_domcmp.run
/awips/fxa/ldad/MSAS/FSL_late_qcrun5m
/awips/fxa/ldad/MSAS/fileAgeTest.pl
/awips/fxa/ldad/MSAS/fslparms/accept.txt
/awips/fxa/ldad/MSAS/fslparms/msas_qcobs.cdl
/awips/fxa/ldad/MSAS/fslparms/QCmesonet.cdl
/awips/fxa/ldad/MSAS/fslparms/qcstg1_2.ini
/awips/fxa/ldad/MSAS/fslparms/reject.txt
/awips/fxa/ldad/MSAS/fslparms/sfchqcin.dat
/awips/fxa/ldad/MSAS/fslparms/sfchqcin.initial
/awips/fxa/ldad/MSAS/fslparms/stadic.txt
/awips/fxa/ldad/MSAS/fslparms/sysdef.txt
/awips/fxa/ldad/MSAS/fslparms/ter5mn.dat
/awips/fxa/ldad/MSAS/FSL_qcrun5m
/awips/fxa/ldad/MSAS/FSL_surfacelh
/awips/fxa/ldad/MSAS/qcstats/FSL_qcstats.run
/awips/fxa/ldad/MSAS/qcstg1_2/FSL_qcstg1_2.run
/awips/fxa/ldad/MSAS/qcstg1_2_late/FSL_qcstg1_2_late.run
/awips/fxa/ldad/MSAS/qcstg3/FSL_qcstg3.run
/awips/fxa/ldad/MSAS/sfcanl/FSL_sfcanl.run
/awips/fxa/ldad/MSAS/sfchqc/FSL_sfchqc.run
/awips/fxa/ldad/MSAS/sfcing/FSL_sfcing.run
/awips/fxa/ldad/MSAS/sfcncdf/FSL_sfcncdf.run
/awips/fxa/ldad/MSAS/sfcnmc/FSL_sfcnmc.run
/awips/fxa/ldad/MSAS/sfcver/FSL_sfcver.run
/awips/fxa/ldad/MSAS/WFOA_MSAS_QCday.run
/awips/fxa/ldad/MSAS/WFOA_MSAS_QCstg1_2_late.run
/awips/fxa/ldad/MSAS/WFOA_MSAS_QCstg1_2.run
/awips/fxa/ldad/MSAS/WFOA_MSAS_Restart
/awips/fxa/ldad/MSAS/WFOA_MSAS_Surface.run
```

## Appendix B OB4 Freeware and COTS Changes

### 1. General Information.

In order to ensure a stable software environment, AWIPS maintains a separate installation for freeware, rather than relying on the freeware that might be packaged with the operating environment (OE). AWIPS policy mandates that all national baselined software use only AWIPS provided versions of freeware. Therefore, each new release of AWIPS typically includes upgrades to several existing packages and also includes entirely new packages.

Sites writing local applications can either use the AWIPS provided packages or download different versions in the directories approved for local installations. Sites choosing to use the AWIPS provided freeware in local applications have to be cognizant of the fact that these versions may change between releases.

Suggestions on proposed changes for the freeware baseline can be coordinated through the AWIPS regional focal point.

### 2. OB4 Changes.

All existing freeware was rebuilt using gcc 3.2.3. New and upgraded packages are listed below. A list of AWIPS COTS/Freeware can also be found at

<http://www-sdd.fsl.noaa.gov/~fxa/requirements/cotsfree.html>

<b><i>COTS Package</i></b>	<b><i>New OB4 Version</i></b>
Tcl/Tk	8.4.4
Perl/Tk	800.025
Java (JRE)	1.4.2 (Linux only)
Python	2.3.2
Numeric Python	23.1
Scientific Python	2.4.3
Python Biggles	1.6.3 (Linux only)
Python Megawidgets	1.2
BLT	2.4z
NetCdf	3.5.1-beta13
Snack	2.1.1 (Linux only)
JasPer	1.700.51 (Linux only)
Apache	1.3.29 (Linux PX only)
swig	1.3.20 (for GFE only)

## Appendix C Individual User Account Setup and Information

### 1. General Information.

In OB4, the `textdemo` and `awipsusr` login accounts are disabled. Individual user accounts are required for every user who logs in to the system. A script is provided (`setupAwipsUser.sh`) that creates the baseline AWIPS environment for each user and passes the needed secure shell (SSH) keys for each user to the other servers and workstations. The following list includes some information about the script.

- a. The `setupAwipsUser.sh` script is used to set up new user accounts or to reconfigure existing accounts. If a new user, the script uses the next available User ID (UID) after 100.
- b. Usernames must be in lowercase alphanumeric (letters and numbers) only and are limited to eight characters, due to HP and RedHat Enterprise 3.0 constraints.
- c. The following is the recommended username format:  
*<first letter of first name><first seven letters of last name>*.  
 For example, Joe Smith's username is `jsmith`. If the username is not unique, add a middle initial or replace a letter with a number.
- d. The `setupAwipsUser.sh` script can be run interactively or automatically.
- e. The `setupAwipsUser.sh` script has an option to remove users.
- f. User's home directory is `/home`.
- g. User's default shell is C-shell (`.csh`).
- h. User's default group is `fxalpha`.
- i. User's environment and permissions are the same as `awipsusr`.
- j. Additional information about what the script can do is listed at the top of the script in `/home/awipsadm/install/setupAwipsUsr.sh`.

### 2. Script Format.

The script `setupAwipsUser.sh` uses the following format:

```
setupAwipsUser.sh <username> [SSH|RSH] [PROMPT|REMOVE|<user real name>]
```

3 parameters:

- a. `<username>`
- b. RSH or SSH
- c. PROMPT, REMOVE, or `<user real name>`  
*<username>*: the name of the user to add (or configure).  
 SSH: Use `ssh` instead of `rsh` to copy files for the initial setup.  
 RSH: Use `rsh` instead of `ssh` to copy files for the initial setup.

PROMPT: makes the script interactive.

REMOVE: remove a user by using UNIX `userdel` command

remove `<username>` from `authorized_keys2` of `ldad` and

```
archiver and move /home/<USER> to
/home/<USER>.SAVEOLDUSER
<user real name>: enter parameters to be used in the 'real name field'
of /etc/passwd such as Joe Smith, x 123
```

3. Pre-installation procedures.

The site should complete Part 0, step 17 to set up a password change GUI on LX1 before the install. It is also recommended that the site complete Part 0, step 18, which sets up a script to automatically run the `setupAwipsUser.sh` script. The following is an example of a script that can be set up in the `/home/awipsadm/install` directory on PX2. The suggested script name is `/home/awipsadm/install/ob4users.sh`.

```
#!/bin/sh
#

CMD="./setupAwipsUser.sh"

$CMD jsmith RSH Joe Smith
$CMD bjones RSH Bill Jones
$CMD ipfreely RSH I P Freely
```

4. Post-installation tips and information.

- a. To remove a user, run the `setupAwipsUser.sh` script with the `REMOVE` option. For example:  
  

```
./setupAwipsUser.sh jsmith RSH REMOVE
```
- b. Users can change passwords by using the *Escher Triangle* icon that was created in Part 0, step 17, or by running the `yppasswd` command from an xterm window.
- c. If a workstation has a locked screensaver and the user is not available to unlock it, the workstation can be reset to the login screen by typing a **Ctrl-Alt-Backspace** on the keyboard of the affected workstation.

## Appendix D Restoring CWSU access after OB4

### 1. General Information.

In OB4, the `awipsusr` and `textdemo` login accounts are disabled. Since the Center Weather Service Unit (CWSU) personnel uses those login accounts to access the system, some modifications have to be made to restore access after the upgrade.

CWSU systems are currently running the RedHat 6.2 operating system. There are plans to upgrade the operating system, but not until some time after the OB4 install is complete. In the meantime, a new account must be established on the WFO systems side and four AWIPS Remote Display (ARD) scripts must be modified to reflect the new account.

By design, there is an `awipsusr` account on the ARD at the CWSU and an `awipsusr` account on the AWIPS workstation at the WFO. The OB4 upgrade requires that the account at the WFO be changed to `cwsuser`. This new account name must be substituted in the ARD scripts wherever there are references to the WFO `awipsusr` or `textdemo` accounts.

Before OB4, the account name `awipsusr` was used for access to the graphics workstations, and `textdemo` was used for access to the text workstations. In OB4 and after, individual user names can access both graphics and text. After OB4 is installed, the ARD scripts log in to the workstation at the WFO using the new account name (`cwsuser`) to access both D2D and the text workstation software. Print files which used to be stored in `textdemo` are now stored in `cwsuser`.

### 2. Create new user account.

Use the `setupAwipsUser.sh` script to create the `cwsuser` account.

From PX2 as user `root`, type the following commands:

- a. `cd /home/awipsadm/install`
- b. `./setupAwipsUser.sh cwsuser RSH CWSU User`

After the script completes rlogin to DS1, then assign the old `awipsusr` password.

- c. `rlogin ds1`
- d. `passwd cwsuser` (enter `awipsusr`'s password)
- e. `/var/yp/ypmake`

3. ARD script information.

Four scripts must be edited to conform to the new account. In each of the following steps, the originally distributed version of the script is listed with line numbers. Change each of the indicated lines as instructed. If the scripts have been locally modified, the changes may have to be adapted accordingly.

The following placeholders are used in the scripts:

- a. `cwsuPassword`. This is the password to the `awipsusr` account on the ARD. Neither the `cwsuPassword` nor the `awipsusr` account on the ARD is modified.
- b. `wfoPassword`. This is the old password to the `awipsusr` account at the WFO. Since the `cwsuser` was given the old `awipsusr` password, no modifications are made.
- c. `textdemoPassword`. This is the old password to the `textdemo` account at the WFO. It must be replaced in the scripts with the `cwsuser` password.

4. Edit the `god2d` script.

The original script is included below (Figure 1), with each line numbered for ease of reference.

From the Linux workstation that is hosting the CWSU, log on as user `root` and type the following:

```
cp /usr/bin/god2d /usr/bin/god2d.old
```

Use an editor to modify `/usr/bin/god2d`. Change line 14 to:

```
send "rlogin ws-wfo -l cwsuser\r"
```

Save and exit the editor.

Figure 1

```
1.  #!/usr/bin/expect --
2.  set var1 "setenv DISPLAY $argv"
3.  set var2 ":0.0\r"
4.  set var3 $var1$var2
5.  set var4 "setenv FXA_LOCAL_SITE ???\r"
6.  spawn telnet "cwsu3"
7.  expect "login: "
8.  send "awipsusr\r"
9.  expect "Password: "
10. send "cwsuPassword\r"
11. expect "awipsusr@cwsu3 awipsusr"
12. send "xhost +\r"
13. expect "access control disabled, clients can...."
14. send "rlogin ws-wfo\r"
15. expect "Password:"
16. send "wfoPassword\r"
17. expect eof
18. send $var3
19. send $var4
20. send "d2d\r"
21. interact
```

5. Edit the `gotextws` script.

The original script is included below (Figure 2), with each line numbered for ease of reference.

From the Linux workstation that is hosting the CWSU, continue as user `root` and type the following:

```
cp /usr/bin/gotextws /usr/bin/gotextws.old
```

Use an editor to modify `/usr/bin/gotextws`. Change line 13 to:

```
send "rlogin ws-wfo -l cwsuser\r"
```

Change line 15 to:

```
send "wfoPassword\r"
```

Change line 18 to:

```
send "/awips/fxa/textdemo/start\r"
```

Save and exit the editor.

Figure 2

```
1.  #!/usr/bin/expect --
2.  set var1 "setenv DISPLAY $argv"
3.  set var2 ":0.0\r"
4.  set var3 $var1$var2
5.  spawn telnet "cwsu3"
6.  expect "login: "
7.  send "awipsusr\r"
8.  expect "Password: "
9.  send "cwsuPassword\r"
10. expect "awipsusr@cwsu3 awipsusr"
11. send "xhost +\r"
12. expect "access control disabled, clients can ..."
13. send "rlogin ws-wfo -l textdemo\r"
14. expect "Password:"
15. send "textdemoPassword\r"
16. expect eof
17. send $var3
18. send "./start\r"
19. interact
```

6. Edit the `gpr.ftp` script.

The original script is included below (Figure 3), with each line numbered for ease of reference.

From the Linux workstation that is hosting the CWSU, continue as user `root` and type the following:

```
cp /usr/bin/gpr.ftp /usr/bin/gpr.ftp.old
```

Use an editor to modify `/usr/bin/gpr.ftp`. Change line 4 to:

```
send "cwsuser\r"
```

Change line 8 to:

```
send "cd /home/cwsuser/cwsu_print\r"
```

Save and exit the editor.

Figure 3

```
1.  #!/usr/bin/expect --
2.  spawn ftp "ws-wfo"
3.  expect "Name (ws-wfo:awipsusr):"
4.  send "awipsusr\r"
5.  expect "Password:"
6.  send "wfoPassword\r"
7.  expect "ftp>"
8.  send "cd /awips/fxa/textdemo/cwsu_print\r"
9.  expect "ftp>"
10. send "lcd /wfo\r"
11. expect "ftp>"
12. send "prompt\r"
13. expect "ftp>"
14. send "get cwsu_graphics_print.ps\r"
15. expect "ftp>"
16. send "quit\r"
17. expect eof
```

7. Edit the `tpr.ftp` script.

The original script is included below (Figure 4), with each line numbered for ease of reference.

From the Linux workstation that is hosting the CWSU, continue as user `root` and type the following:

```
cp /usr/bin/tpr.ftp /usr/bin/tpr.ftp.old
```

Use an editor to modify `/usr/bin/tpr.ftp`. Change line 4 to:

```
send "cwsuser\r"
```

Change line 8 to:

```
send "cd /home/cwsuuser/cwsu_print\r"
```

Save and exit the editor.

Figure 4

```
1.  #!/usr/bin/expect --
2.  spawn ftp "ws-wfo"
3.  expect "Name (ws-wfo:awipsusr):"
4.  send "awipsusr\r"
5.  expect "Password:"
6.  send "wfoPassword\r"
7.  expect "ftp>"
8.  send "cd /awips/fxa/textdemo/cwsu_print\r"
9.  expect "ftp>"
10. send "lcd /wfo\r"
11. expect "ftp>"
12. send "prompt\r"
13. expect "ftp>"
14. send "get cwsu_text_print.txt\r"
15. expect "ftp>"
16. send "quit\r"
17. expect eof
```

8. The procedure for printing D2D panes and text window contents is essentially unchanged by the OB4 upgrade. The only difference is that the print files must be stored in the `cwsuser` account at the WFO rather than in the `textdemo` account. However, the print procedures are listed below for reference.
  - a. To print the contents of the large D2D pane:
    - i. Select **File** on the main D2D menu bar, and then select **Print...**
    - ii. In the **Print to** section of the **Print** dialog box, select **File**. Next click **Browse**.
    - iii. In the **Save Printing to File** dialog box, navigate so that `/home/cwsuser/cwsu_print` is displayed in the directory selection pull down menu. Enter the file name `cwsu_graphics_print.ps` in the **File name** text box in the **Save Printing to file** dialog.
    - iv. Click **Save** on the **Printing to file** dialog. If asked to overwrite an existing file of that name, click **Yes**.
    - v. In the **Print in** section of the **Print** dialog box, select **Grayscale**.
    - vi. In the **Orientation** section of the **Print** dialog box, select **Portrait**.
    - vii. Select **Invert black/white** near the bottom of the **Print** dialog box.
    - viii. Click **OK** on the **Print** dialog box. The print image is now saved to the specified file on the supporting workstation at the WFO.
    - ix. Click on the icon that looks like a piece of paper with the notation `jpeg` next to it. This action retrieves the file from the WFO workstation and sends it to the ARD printer.
  - b. To print the contents of a text window:
    - i. Select **File** on the main Text Window menu bar, and then select **Export To File...**
    - ii. In the **Export To File** dialog, navigate to `/home/cwsuser/cwsu_print`.
    - iii. In the **Export to File** dialog, edit the contents of the **Filename** key in so as to add `cwsu_text_print.txt` at the end of the displayed path.
    - iv. Click **OK** on the **Export To File** dialog.
    - v. Click on the icon that looks like a piece of paper with the notation **Note** on it. This action retrieves the file from the WFO workstation and sends it to the ARD printer.

## Attachment B

### EMRS Report Sample

A26 Detail Form - ESCM2, SILVER SPRING, MD :: JOHN MERHI - Microsoft Internet Explorer

New A26 Commit A26 Place on Hold Cgpy A26 Delete A26 Detail Report Document Summary Help

---

**GENERAL INFORMATION**

NEW RECORD WFO\* TBW Document No.\* TBW40910001

1. Open Date 09/09/2004 Open Time 08:00 2. Op Initials WSH 3. Response Priority  
☐ Immediate ☐ Low  
☐ Routine ☒ Not Applicable 4. Close Date 09/10/2004 Close Time 12:00

5. Maintenance Description 475 characters left AWIPS  
Install AWIPS Release OB4

---

**EQUIPMENT INFORMATION**

6. Station ID\* TBW 7. Equipment Code AWIPS 8. Serial Number 001 9. TM M 10. AT M 11. How Mal 999

Alert: Time Remaining:  
(For Block 12 use only)

---

**13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING**

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
				New Row
				Delete Row

---

**14. WORKLOAD INFORMATION**

a. Routine	b. Non-Routine	c. Travel	d. Misc	e. Overtime
Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes	Hours Minutes
			12 0	

---

**MISCELLANEOUS INFORMATION**

15. Maintenance Comments 617 characters left  
Installed AWIPS Release OB4, including all pre and post installation activity, I.A.W. AWIPS Software Installation Instruction Note 51

16. Tech Initials GAF

---

**17. SPECIAL PURPOSE REPORTING INFORMATION**

a. Mod No.	b. Mod Act/Deact Date	c. Block C	d. Trouble Ticket No.	e. Block E
S51	09/10/2004			

Commit A26 Place on Hold Cgpy A26 New A26 Cancel

Done Internet